

### ***Remarks***

Claims 1-5, 7-14, 28-42, 44-47, and 53-55 have been canceled. Claim 6 has been amended to correspond to claim 8, rewritten into independent form; claim 52 has been amended to maintain proper antecedent basis. New claims have also been added, including: (a) claims 57-58, directed to the specific adenovirus composition used in the method of claim 6; (b) claims 59-60, directed to a method of treating ischemia using the specific adenovirus composition used in the method of claim 6; and (c) claims 61-62, directed to a method of stimulating the migration of human dermal microvascular endothelial cells using the specific adenovirus composition used in the method of claim 6. The amendments are fully supported by the application as originally filed, and thus no new matter has been added.

Applicants understand that the Examiner may restrict and withdraw new claims 57-58 as directed to compositions rather than methods. However, as the elected group is directed to a method of use of a product, and new claims 57-58 are directed to that product, Applicants believe that it does not constitute a serious burden to examine new claims 57-58 together with the remaining claims, even assuming *arguendo* that they are held to constitute independent or distinct inventions. In particular, Applicants believe that no additional search would be required, as the method of using the composition has already been searched and examined. Moreover, the completed searches of the elected group were primarily directed to compositions (SEQ ID NO:1 and SEQ ID NO:2), and encompassed the composition claimed in new claims 57-58.

Claims 6, 43, 48-52, and 57-62 are pending.

#### **I. Priority**

The Examiner has maintained that the previous claims are not entitled to claim benefit of parent applications 08/459,101 and PCT/US94/07736 under 35 U.S.C. § 120, and newly held that the previous claims are not entitled to claim benefit of parent application 09/348,815 under 35 U.S.C. § 120. The Examiner contends that these disclosures do not contain the term “stimulating angiogenesis” and do not enable or support a method of stimulating angiogenesis by administering a polynucleotide encoding CTGF-2. However, the Examiner has accepted that the previous claims are entitled to claim benefit under 35 U.S.C. § 119(e) of U.S. Provisional App. No. 60/217,402.

In response, while Applicants do not agree, paragraph 0001 and the Application Data Sheet have been amended to remove the benefit claims objected to by the Examiner. Applicants request that the Office computer records (PAIR) be corrected to reflect these changes.

Applicants also ask that the Examiner clarify in the next action that the benefit claim under 35 U.S.C. § 119(e) to U.S. Provisional App. No. 60/291,642 has been properly made.

## II. Rejections Under 35 U.S.C. § 112, First Paragraph

### A. Written Description of Claims 1-14, 28-52, & 55

The Examiner has maintained the rejection of claims 1-14 and 28-52, and newly rejected claim 55, under 35 U.S.C. §112, first paragraph for allegedly failing to comply with the written description requirement. In particular, the Examiner contends that, “The specification does not provide any disclosure as to what would have been a polynucleotide encoding a CTGF-2 polypeptide fragment with angiogenic activity, other than SEQ ID NO:1.”

In response, while Applicants do not agree, and maintain that the previously pending claims fully complied with the written description requirement, claims 1-5, 7-14, 28-42, 44-47, and 55 have been canceled, and claim 6 has been amended to correspond to claim 8, rewritten into independent form. As all of the pending claims now include the specific adenoviral vector pTG14550 (Pasteur Institute Deposit Number CNCM I-2695), which contains SEQ ID NO:1 (*see* paragraphs 0342-0344), the instant rejection is moot. Thus, the present claims fully satisfy the written description requirement of 35 U.S.C. § 112, first paragraph, and Applicants respectfully request that the Examiner reconsider and withdraw the instant rejection.

### B. Enablement of Claims 1-14 & 28-55

The Examiner has maintained the rejection of claims 1-14 and 28-52, and newly rejected claims 53-55, under 35 U.S.C. § 112, first paragraph for allegedly failing to comply with the enablement requirement. In particular, while the Examiner has agreed that the specification is enabling for a method of stimulating angiogenesis at the site of ischemia in a mammal, comprising the intramuscular administration of SEQ ID NO: 1, wherein SEQ ID NO: 1 is contained in adenoviral vector pTG14550, the Examiner contends that the specification “does not provide enablement for a method of stimulating angiogenesis in a mammal, comprising any route of administration of a polynucleotide encoding CTGF-2, wherein the mammal has restenosis.”

In response, while Applicants do not agree, and maintain that the previously pending claims fully complied with the enablement requirement, claims 1-5, 7-14, 28-42, 44-47, and 53-55 have been canceled, and claim 6 has been amended to correspond to claim 8, rewritten into independent form. As claims 6, 43, and 48-52 now include the intramuscular administration of the specific adenoviral vector pTG14550 (Pasteur Institute Deposit Number CNCM I-2695), and

Application No.: 09/901,910    6    Docket No.: PF126P2

claim 4, 29, & 44, directed to restenosis, have been canceled, the instant rejection is moot. Applicants note that claims 59-60 are directed to a method of treating ischemia comprising intramuscularly administering an effective amount of adenoviral vector pTG14550, which the Examiner has agreed is enabled. Moreover, claims 61-62 are fully enabled as taught in Example 12, paragraphs 0346 and 0354. Thus, the present claims satisfy the enablement requirement of 35 U.S.C. § 112, first paragraph, and Applicants respectfully request that the Examiner reconsider and withdraw the instant rejection.

### **III. Rejections Under 35 U.S.C. § 102(b)**

#### **A. Babic et al.**

The Examiner has maintained the rejection of claims 1-2, 7, 9, 13, 31, & 35, and newly rejected claim 55, under 35 U.S.C. § 102(b) as allegedly being anticipated by Babic et al.

Applicants respectfully disagree and traverse. In particular, Applicants point out that Babic et al. disclose a retroviral vector (pL61SN) rather than an adenoviral vector, and thus the rejection of claims 2, 31, and 35 is improper. Likewise, Babic et al. do not disclose treatment of a mammal for limb revascularization, but instead teach the implantation of tumorigenic cells containing CYR61 into the flanks (not limbs) of SCID mice, resulting in larger, more vascularized tumors, not revascularized limbs. Accordingly, claim 9 is also not anticipated by Babic et al.

Nevertheless, Applicants have canceled claims 1-2, 7, 9, 13, 31, & 35 in favor of the presently pending claims, which all recite the specific adenoviral vector pTG14550. Accordingly, the instant rejection is moot, and Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

#### **B. Lau et al.**

The Examiner has newly rejected claims 1-2, 39-41, and 53-55 under 35 U.S.C. § 102(b) as allegedly being anticipated by Lau et al.

Applicants respectfully disagree and traverse. In particular, Applicants point out that the Examiner has admitted that SEQ ID NO:4 of Lau et al. is not 100% identical to SEQ ID NO:2 of the present invention. Anticipation requires each and every element of the claimed invention to be disclosed in the reference. *See Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576, (Fed. Cir. 1991); *see also In re Deuel*, 51 F.3d 155 (Fed. Cir. 1995) (holding that the prior art must suggest making the specific molecular modifications necessary to achieve the claimed invention to render it obvious). As the Examiner has admitted that Lau et al. does

Application No.: 09/901,910

not disclose a polynucleotide encoding SEQ ID NO:2 or the polypeptide encoded by ATCC Deposit No. 75804, claims 53 and 54 cannot be anticipated by the reference.

Nevertheless, Applicants have canceled claims 1-2, 39-41, and 53-55 in favor of the presently pending claims, which all recite the specific adenoviral vector pTG14550. Accordingly, the instant rejection is moot, and Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

#### **IV. Availability of the Deposit**

Although the Examiner has not yet required a statement regarding the availability of the deposit for adenoviral vector pTG14550 (Pasteur Institute Deposit Number CNCM I-2695), Applicants' representative hereby gives the following assurance by signature below:

Transgene S.A., an assignee of the present application, has deposited biological material under the terms of the Budapest Treaty on the International Recognition of the Deposit of Micro-organisms for the Purposes of Patent Procedure with the following International Depository Authority: Collection Nationale de Cultures de Microorganismes (CNCM), INSTITUT PASTEUR, 25, rue du DOCTEUR ROUX, F-74724 Paris Cedex 15, France. The deposit was made on July 9, 2001, accepted by the CNCM, and given Pasteur Institute Deposit Number CNCM I-2695. In accordance with M.P.E.P. § 2410.01 and 37 C.F.R. § 1.808, assurance is hereby given that all restrictions on the availability to the public of Pasteur Institute Deposit Number CNCM I-2695 will be irrevocably removed upon the grant of a patent based on the instant application, except as permitted under 37 C.F.R. § 1.808(b). A copy of the deposit receipt for Pasteur Institute Deposit Number CNCM I-2695 is enclosed herewith.


#### ***Conclusion***

Entry of the above amendments and remarks is respectfully solicited. In view of the foregoing, Applicants believe that this application is now in condition for allowance. The Examiner is invited to call the undersigned at the phone number provided below if any further action by Applicants would expedite the allowance of this application.

If there are any fees due in connection with the filing of this paper, please charge the fees to our Deposit Account No. 08-3425. If a fee is required for an extension of time under 37 C.F.R. § 1.136, such an extension is requested and the appropriate fee should also be charged to our Deposit Account.

Dated: December 17, 2004

Respectfully submitted,

By  \_\_\_\_\_

Mark J. Hyman

Registration No.: 46,789  
HUMAN GENOME SCIENCES, INC.  
14200 Shady Grove Road  
Rockville, Maryland 20850  
(240) 314-1224

TRAITE DE BUDAPEST SUR LA RECONNAISSANCE  
INTERNATIONALE DU DEPOT DES MICRO-ORGANISMES  
AUX FINS DE LA PROCEDURE EN MATIERE DE BREVETS

FORMULE INTERNATIONALE

DESTINATAIRE :

RECEPISSE EN CAS DE DEPOT INITIAL,  
délivré en vertu de la règle 7.1 par  
l'AUTORITE DE DEPOT INTERNATIONALE  
identifiée au bas de cette page

TRANSGENE S.A.  
11, rue de Molsheim  
67082 Strasbourg Cedex  
FRANCE

NOM ET ADRESSE  
DU DEPOSANT

<b>I. IDENTIFICATION DU MICRO-ORGANISME</b>	
Référence d'identification donnée par le DEPOSANT :  <div style="text-align: center; font-size: 1.2em; font-weight: bold;">pTG14550</div>	Numéro d'ordre attribué par l'AUTORITE DE DEPOT INTERNATIONALE :  <div style="text-align: center; font-size: 1.5em; font-weight: bold;">I - 2695</div>
<b>II. DESCRIPTION SCIENTIFIQUE ET/OU DESIGNATION TAXONOMIQUE PROPOSEE</b>	
Le micro-organisme identifié sous chiffre I était accompagné :  <div style="display: flex; flex-direction: column; gap: 10px;"> <div> <input checked="" type="checkbox"/> d'une description scientifique                 </div> <div> <input checked="" type="checkbox"/> d'une désignation taxonomique proposée                 </div> </div> <p>(Cocher ce qui convient)</p>	
<b>III. RECEPTION ET ACCEPTATION</b>	
La présente autorité de dépôt internationale accepte le micro-organisme identifié sous chiffre I, qu'elle a reçu le <b>09 juillet 2001</b> (date du dépôt initial) <sup>1</sup>	
<b>IV. RECEPTION D'UNE REQUETE EN CONVERSION</b>	
La présente autorité de dépôt internationale a reçu le micro-organisme identifié sous chiffre I le (date du dépôt initial) et a reçu une requête en conversion du dépôt initial en dépôt conforme au Traité de Budapest le (date de réception de la requête en conversion)	
<b>V. AUTORITE DE DEPOT INTERNATIONALE</b>	
Nom : <b>CNCM</b> Collection Nationale de Cultures de Microorganismes  Adresse : <b>INSTITUT PASTEUR</b> 28, Rue du Docteur Roux F-75724 PARIS CEDEX 15	Signature(s) de la (des) personne(s) compétente(s) pour représenter l'autorité de dépôt internationale ou de l'(des) employé(s) autorisé(s) : <b>Georges WAGENER</b>  <div style="text-align: right;">                       Date : Paris, le 10 septembre 2001                 </div>

<sup>1</sup> En cas d'application de la règle 6.4.d), cette date est la date à laquelle le statut  
d'autorité de dépôt internationale a été acquis.

## FORMULE INTERNATIONALE

DECLARATION SUR LA VIABILITE,  
délivrée en vertu de la règle 10.2 par  
l'AUTORITE DE DEPOT INTERNATIONALE  
identifiée à la page suivante

I. DEPOSANT	II. IDENTIFICATION DU MICRO-ORGANISME
Nom : <b>TRANSGENE S.A.</b>  Adresse : <b>11, rue de Molsheim 67082 Strasbourg Cedex FRANCE</b>	Numéro d'ordre attribué par l'AUTORITE DE DEPOT INTERNATIONALE :  <b>I - 2695</b>  Date du dépôt ou du transfert <sup>1</sup> :  <b>09 juillet 2001</b>
III. DECLARATION SUR LA VIABILITE	
La viabilité du micro-organisme identifié sous chiffre II a été contrôlée le <b>09 juillet 2001</b>	
2. A cette date, le micro-organisme  <input checked="" type="checkbox"/> <sup>3</sup> était viable  <input type="checkbox"/> <sup>3</sup> n'était plus viable	

- 1 Indiquer la date du dépôt initial ou, si un nouveau dépôt ou un transfert ont été effectués, la plus récente des dates pertinentes (date du nouveau dépôt ou date du transfert).
- 2 Dans les cas visés à la règle 10.2.a)ii) et iii), mentionner le contrôle de viabilité le plus récent.
- 3 Cocher la case qui convient.